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CLAIMS

1. A method of producing a microstructured optical fibre from a preform, said method including the steps of:
creating zones of relatively high refractive index at predetermined locations in
5 said preform, said zones substantially surrounded by material of relatively low refractive index to create an array of light guiding cores, and
subsequently drawing said preform to create a length of said microstructured optical fibre.
2. The method as claimed in claim 1 wherein said light guiding cores are
10 surrounded substantially by air.
3. The method as claimed in claim 1 or 2 wherein said light guiding cores have a generally non-circular cross-sectional shape.
4. The method as claimed in any one of claims 1 to 3 wherein said preform is formed from optically suitable polymeric material.
- 15 5. The method as claimed in any one of claims 1 to 3 wherein a plurality of holes is drilled into said preform at said predetermined locations.
6. The method as claimed in any one of claims 1 to 5 wherein said preform is drawn to form said microstructured optical fibre in a two-stage drawing process.
7. A method of producing a microstructured optical fibre from a preform, said
20 method including the steps of:
creating channels of relatively low refractive index at predetermined locations in said preform, said channels acting to define light guiding cores, and
subsequently drawing said preform to create a length of said microstructured optical fibre.
- 25 8. The method as claimed in claim 7 wherein a plurality of holes is drilled into said preform at said predetermined locations to create said channels.
9. The method as claimed in claim 7 or 8 wherein said preform is drawn to form said microstructured optical fibre in a two-stage drawing process.
10. The method as claimed in any one of claims 7 to 9 wherein said preform is
30 monolithic.

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11. A micro-structured optical fibre, said optical fibre including a plurality of air channels, said air channels acting to define light guiding cores between said air channels.
12. A micro-structured optical fibre for imaging applications, said optical fibre
5 including air channels which act as light guiding cores.